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**DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION**

Date: November 1, 2023

To: Nevada Businesses

Re: Guidance for Nevada Business Related to the National Emphasis Program on Respirable Crystalline Silica and Enhanced Targeting on Engineered Stone Fabrication and Installation Operations)

On February 4, 2020, Federal OSHA released the [National Emphasis Program \(NEP\) on Respirable Crystalline Silica](#) to identify and reduce or eliminate worker exposures to respirable crystalline silica (RCS) in general industry, maritime, and construction. This NEP targets specific industries expected to have the highest exposures to RCS. Nevada OSHA adopted this NEP February 24, 2020, and this NEP remains in effect in Nevada for general industry and construction. For more information about enforcement history of RCS – refer to the [NEP document](#).

On September 22, 2023, Federal OSHA released a [supplement](#) to the Respirable Crystalline Silica NEP that will focus on conducting enhanced enforcement in the engineered stone fabrication and installation industries. Nevada OSHA will support this effort and initiate enhanced enforcement in those industries as part of Nevada OSHA's ongoing efforts to emphasize inspection activities at industries where RCS is a recognized hazard.

Crystalline silica is a common mineral found in many naturally occurring materials and is used in many industrial products and at construction sites. Materials including sand, concrete, stone, and mortar contain crystalline silica.

RCS consists of very small silica particles, typically at least 100 times smaller than ordinary sand found on beaches or playgrounds. RCS is generated by high energy operations like cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block, and mortar; and when abrasive blasting with sand. Exposure to RCS can also occur during the manufacture of products such as glass, pottery, ceramics, bricks, concrete, countertops, and artificial stone. In particular, silica exposure during the fabrication of artificial stone countertops is an emerging hazard that has been associated with several recent outbreaks of severe accelerated silicosis in young workers in the U.S. Additionally, fine industrial sand used in industry can also be a source of RCS exposure, such as in certain foundry operations and, increasingly in recent years, during hydraulic fracturing (fracking).

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Inhalation of elevated levels of RCS particles poses a health hazard and can cause multiple diseases, including silicosis, an incurable lung disease that can lead to disability and death. Exposure to RCS can also cause lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease. Simply being near sand or other silica-containing materials is not hazardous. The hazard is created when specific activities generate respirable dust that is released into the air.

Inspections of employers within industries that fall under this NEP will focus on hazards associated with the cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block, mortar, and when abrasive blasting with sand. Exposure to elevated noise levels from cutting, drilling, or blasting operations; heat stress; and exposure to beryllium dust during abrasive blasting will also be evaluated during enforcement activities.

As part of the NEP adopted in 2020, Nevada OSHA focuses its programmed inspections in the Cut Stone and Stone Product Manufacturing industry (NAICS 327991) through its [Programmed Inspection Plan](#) (PIP). As part of this updated NEP, Nevada OSHA’s PIP now includes the Brick, Stone and Related Construction Material Merchant Wholesalers industry (NAICS 423320). Injury and illness data within these industries specific to Nevada indicate that they are experiencing higher injury and illness rates resulting in days away, restricted, and transferred (DART) than the national average, which warrants Nevada OSHA to focus its enforcement efforts on these industries.

Table 1 provides the five-year averages (2017 through 2021) for total recordable case rates and total DART rates for the industries engaged in work recognized by Federal OSHA as RCS-generating industries. The data reflects the fact that these industries are experiencing injury and illness rates higher than the average rate in all private industries. The DART Rate trigger for possible inclusion into an industry programmed inspection focus pursuant to Nevada OSHA’s PIP is a DART Rate of 2.5 or greater.

Table 1 – Injury and Illness Rates Specific to Nevada

Industry Covered by	NAICS Code	National 5-Year Avg. DART Rate	State 5-Year Avg. DART Rate
Merchant wholesalers, durable goods	423xxx	1.4	3.3
Nonmetallic mineral product manufacturing	327xxx	2.7	3.2

Partial inspections will be conducted at high injury rate retail establishments that fall under this NEP and shall cover areas where activities mentioned in this document are occurring, including but not limited to, cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block, mortar, and when abrasive blasting with sand. Nevada OSHA may expand the scope of the partial inspection when there is evidence (e.g., injuries or illnesses recorded in both OSHA forms 300 and 301, employee statements, or “plain view” observations) that violative conditions may be found in other areas of that establishment.

Hazard Mitigation

Hazards related to silica can often be mitigated with simple and effective dust controls in most engineered stone fabrication and installation operations. As an employer of workers facing these hazards, you have the legal obligation to implement effective controls and comply with the respirable crystalline silica standards for general industry and/or construction ([29 CFR § 1910.1053](#) and [29 CFR § 1926.1153](#)), as applicable. This includes adherence to the applicable permissible exposure limit which is set at 50 micrograms per cubic meter of air as an 8-hour time-weighted average (TWA) for general industry and construction.

To assist you in your effort to keep workers safe and reduce the prevalence of silicosis, please review the following Fact Sheets: ([General Industry and Maritime Fact Sheet](#) and [Construction Fact Sheet](#)) containing information on dust control methods and safer work practices that can be used during engineered stone manufacturing, finishing and installation operations. Additionally, please review the [OSHA and NIOSH Hazard Alert](#) and the Small Entity Compliance Guides for [General Industry, Maritime,](#) and the [Construction Industry](#).

Control methods for countertop manufacturing and finishing operations include, but are not limited to, the following:

- Using water spraying systems and remote-controlled tools at the impact site where a saw or grinder generates dust.
- Using large bridge or gantry-like saws that use water sprays and are remote-controlled for dust control and cooling.
- Using hand-held angle grinders modified to deliver water to the point of contact with the stone.
- Using wet-edge milling machines or stone routers in place of dry grinders in shops. These provide a clean edge profile with a diamond wheel.
- Using hand tools (e.g., drills, masonry saws, grinders) equipped with a shroud and a vacuum with a high efficiency particulate air (HEPA)-filter when wet methods are not practicable.
- Installing Local Exhaust Ventilation (LEV) systems at fixed locations to capture dust at its point of origin.
- Using a combination of both water and ventilation controls, if necessary.
- Replacing water and air filters as needed to control dust.
- Adjusting water flow as necessary to control dust and following manufacturers' recommendations for water flow rates.
- Pre-washing stone slabs prior to cutting.
- In high exposure areas, such as where cutting or polishing work generates silica dust, providing HEPA filtered vacuums for cleaning worker clothes and water for hand, face, and hair cleaning.

Control methods for countertop installation operations include, but are not limited to, the following:

- Performing as much work as possible under controlled manufacturing conditions (i.e., using LEV) instead of at an enclosed, unventilated installation site, or performing work outdoors or in well-ventilated areas to reduce dust exposure.
- Using other dust suppression methods (e.g., LEV) during operations where wet methods for dust control may not be practicable, such as on or near finished cabinets, walls, and floors.
- Using grinding and drilling tools equipped with dust shrouds coupled with LEV and a HEPA filter. Controls can be either tool mounted (drills) or attached to a vacuum system.
- Using a HEPA-filtered vacuum to clean up dust as soon as practicable.

Dust controls and work practices provide the best protection for workers and must generally be implemented first, before respiratory protection is used. However, you must provide workers with respirators, and ensure their use, whenever required by the applicable respirable crystalline silica standard.

Standards

The following is a list which includes, but is not limited to, the standards applicable to respirable crystalline silica. Employers are responsible for reading the full standards and maintaining compliance:

- **General Industry:** [29 CFR 1910.1053](#)
- **Construction:** [29 CFR 1926.1153](#)

Training

Pursuant to 29 CFR 1910.1053(j)(3) and 1926.1153(i)(2), employers shall ensure that each employee covered by this section can demonstrate knowledge and understanding of at least the following:

- A. The health hazards associated with exposure to respirable crystalline silica;
- B. Specific tasks in the workplace that could result in exposure to respirable crystalline silica;
- C. Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;
- D. The contents of the respirable crystalline silica standards;
- E. The identity of the competent person designated by the employer in accordance with paragraph (g)(4) of this section (*construction industry only*); and
- F. The purpose and a description of the medical surveillance program required by paragraph (h) of the respirable crystalline silica standards.

Personal Protective Equipment

- **Workplace Hazard Assessment ([29 CFR 1910.132](#)):** Employers shall assess their workplace(s) to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall elect, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment; communicate selection decisions to each affected employee; and select PPE that properly fits each affected employee.
- **Eye and Face Protection ([29 CFR 1910.133](#)):** The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
- **Respiratory Protection ([29 CFR 1910.134](#)):** In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures. When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.

Respirators shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include all applicable requirements. The program shall cover each employee required by this section to use a respirator.

- **Eye and Face Protection ([29 CFR 1910.133](#)):** The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

How to File a Complaint

Employees who feel they have been exposed to a hazardous condition in the workplace, have the right to raise their concerns with their employer or to file a complaint with Nevada OSHA. Such a complaint may trigger an inspection of the workplace. An employee who raises concerns with their employer or files an OSHA complaint is protected against retaliation or discrimination for having done so by NRS 618.445 and section 11(c) of the federal Occupational Safety and Health Act, Pub. L. 91-596, 84 Stat. 1590. If an employee files a complaint with Nevada OSHA, their name and contact information will be held as confidential information pursuant to NRS 618.341(3)(a).

To file a complaint, please visit <https://www.osha.gov/workers/file-complaint> or call Nevada OSHA at (702) 486-9020 (southern Nevada) or (775) 688-3700 (northern Nevada).

Assistance Available from Nevada Safety Consultation and Training Section (SCATS)

SCATS is here to help. SCATS is focused on keeping Nevadans safe and healthy while on the job. SCATS offers resources for employers and employees alike, from training to consultation to safety program review. If your business has questions or needs onsite training or consultation, please submit a request by calling 877-472-3368 or submitting a consultation request at <https://www.4safenv.state.nv.us/contact/>.

References:

National Emphasis Program – National Emphasis Program on Respirable Crystalline Silica:

https://www.osha.gov/sites/default/files/enforcement/directives/CPL_03-00-023.pdf

Respirable Crystalline Silica Focused Inspection Initiative in the Engineered Stone Fabrication and Installation Industries:

<https://www.osha.gov/laws-regs/standardinterpretations/2023-09-22>

General Industry and Maritime Fact Sheet for RCS:

<https://www.osha.gov/sites/default/files/publications/OSHA3682.pdf>

Construction Industry Fact Sheet for RCS:

<https://www.osha.gov/sites/default/files/publications/OSHA3681.pdf>

OSHA and NIOSH Hazard Alert:

<https://www.osha.gov/sites/default/files/publications/OSHA3768.pdf>

Small Entity Compliance Guide – General Industry and Maritime

<https://www.osha.gov/sites/default/files/publications/OSHA3911.pdf>

Small Entity Compliance Guide – Construction Industry

<https://www.osha.gov/sites/default/files/publications/OSHA3902.pdf>